

Application No.: 10/023,787

Docket No.: 65858-0011

REMARKS

In the Office Action, claims 18 and 19 were allowed. Claims 15, 16, and 34-36 were stated to contain allowable subject matter, but were objected to as depending from rejected base claims. Claims 1, 3, 4, 6-13, 20-33, and 37-42 were rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over G. Baxes, 1994, *Digital image processing: principles and application* ("Baxes"), in view of U.S. Patent No. 5,917,936 ("Katto") and further in view of U.S. 4,625,329 ("Ishikawa"). Claim 5 was rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over Baxes in view of Katto, Ishikawa, Google article, Jan. 29, 2001, "Point Operations" ("Google"), and Hentea, IEEE Publications, 1993, "Algorithm for automatic threshold determination for image segmentation" ("Hentea").

In this Amendment, Applicant has amended independent claims 1 and 20 to further define patentable aspects. Claim 37 has been amended simply to coincide with the amendments to claim 20. In addition, Applicant has added new dependent claims 43-46. The amendments presented herein do not introduce any new matter. Accordingly, claims 1, 3-13, 15, 16, and 18-46 are pending. Claims 1, 18, and 20 are independent claims. Applicant respectfully requests favorable reconsideration of the pending claims based on the foregoing claim amendments and the following remarks.

Reasons for Allowance or Allowability

The Office Action contains a statement of reasons for the allowance or allowability of claims 15, 16, 18, 19, and 34-36. Applicant agrees with the Examiner's conclusions regarding patentability, without necessarily agreeing with or acquiescing in the Examiner's reasoning. In particular, Applicant believes that the application is allowable because the prior art fails to teach, anticipate or render obvious the invention as claimed, independently of how the invention is paraphrased.

Independent Claims 1 and 20

As mentioned above, independent claims 1 and 20 were rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over Baxes in view of Katto and Ishikawa. "To establish prima facie

Application No.: 10/023,787

Docket No.: 65858-0011

obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974)." M.P.E.P. § 2143.03. The prior art of records fails to teach or suggest every limitation recited in independent claims 1 and 20 as amended.

For example, independent claim 1 recites limitations directed to a setting of the second revised pixel including a momentum-based heuristic. Independent claim 20 recites limitations directed to a gap processing heuristic including a momentum-based heuristic. The momentum-based heuristic recited in each claim can be used to determine an appropriate value of a particular pixel by looking to and incorporating the pixel values of pixels in the vicinity of the particular pixel being considered. (Paragraph [0047] of Applicant's specification). As stated in Applicant's specification:

Momentum-based processing can compute the sequential number of occupant pixels 40 in either the horizontal or vertical direction (only the vertical direction in a preferred embodiment) in a particular row or column (only vertical columns in a preferred embodiment) in the ambient image 38. The underlying logic of gap-based processing is that the pixel values (relating to pixels in the vicinity of the pixel being set) can be incorporated into the pixel being set. Momentum-based processing incorporates the concept that a series of sequential occupant pixels makes it more likely that an intervening ambient pixel or two is the result of misidentification by the system 16. For example, if two pixel regions 66 are separated by a gap of 4 ambient sequential pixels 44, the "momentum" associated with the occupant pixels 40 in the two pixel regions 66 may be sufficient to fill the gap and join the two regions 66. The greater the number of sequential or consecutive occupant pixels 40, the greater the "momentum" to allow the filling of a gap of ambient pixels 40.

(Paragraph [0051] of Applicant's specification).

Contrary to the assertions of the Examiner, the prior art of record does not teach or suggest a momentum-based heuristic as recited in the claims. The Examiner has correctly admitted on the record that Baxes, Ishikawa, Google, and Hentea fail to teach or suggest a momentum-based heuristic. (Page 5 of the present Office Action and page 16 of the Office action dated July 12, 2005). In the present Office Action, the Examiner asserts that Katto at col. 1 line 45 through col. 2, line 15 discloses a momentum-based heuristic. (Page 6 of the Office Action). Applicant respectfully disagrees.

Application No.: 10/023,787

Docket No.: 65858-0011

The section of Katto cited in the Office Action is directed to a clustering algorithm for determining a distance from a pixel to each cluster. (Col. 1, lines 56- 68 of Katto). The pixel is determined to belong to the cluster that is a minimum distance away from the pixel. (Col. 2, lines 1-2 of Katto). The clustering algorithm includes a displacement vector for each pixel and each cluster. (Col. 1, lines 53-56 of Katto). The displacement vectors are used to predict and compensate for motion in determining to which cluster each pixel belongs. (Col. 2, lines 5-9 of Katto). However, the use of displacement vectors to compensate for video motion in grouping pixels into clusters is entirely unrelated to the momentum-based heuristics recited in claims 1 and 20, especially when these limitations are considered in the entire context of each claim and Applicant's specification. Moreover, Katto's grouping of pixels to the cluster that is the nearest distance from the pixels teaches away from the momentum-based heuristic recited in claims 1 and 20 because the momentum-based heuristic is based on momentum rather than distance, as described in paragraphs [0047] through [0055] of Applicant's specification. Applicant respectfully requests that if the Examiner were to continue to assert that Katto discloses a momentum-based heuristic, that additional clarity be provided to assist in understanding the Examiner's interpretation of Katto.

Because Katto fails to teach or suggest a momentum-based heuristic as recited in claims 1 and 20, the combination of Baxes, Katto, and Ishikawa also fails to teach or suggest these limitations. The other prior art references made of record fail to cure this deficiency. Accordingly, Applicant respectfully requests that the Examiner withdraw the rejection of independent claims 1 and 20.

Dependent Claims 3-13, 21-33, and 37-42

As mentioned above, dependent claims 3, 4, 6-13, 21-33, and 37-42 were rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Baxes in view of Katto and further in view of Ishikawa, and dependent claim 5 was rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Baxes in view of Katto, Ishikawa, Google, and Hentea. Applicant traverses these rejections for at least the same reasons presented above with respect to independent claims 1 and 20.

Application No.: 10/023,787

Docket No.: 65858-0011

New Claims 43-46

Applicant has added new dependent claims 43-46, each of which depends either directly or indirectly from independent claim 1. The newly added claims are thought to be patentable over the prior art of record for at least the same reasons given above with respect to the independent claims. The new claims also recite independently patentable subject matter. Therefore, examination and allowance of the newly added claims is respectfully requested.

Application No.: 10/023,787

Docket No.: 65858-0011

CONCLUSION

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to pass this application to issue. If the Examiner believes that any further matters require clarification, the Examiner is encouraged to telephone the undersigned Applicant's representative.

Applicant believes that no fee is due with this response. However, if a fee is due, please charge our Deposit Account No. 18-0013, under Order No. 65858-0011, from which the undersigned is authorized to draw.

Dated: January 3, 2006

Respectfully submitted,

By 

Jeffrey R. Jeppsen

Registration No.: 53,072

Michael B. Stewart

Registration No.: 36,018

RADER, FISHMAN & GRAUER PLLC

39533 Woodward Avenue, Suite 140

Bloomfield Hills, Michigan 48304

(248) 594-0600

Attorneys for Applicant